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MODIFYING TECHNIQUE OF INSTRUCTION FOR GIFTED CHILDREN

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MODIFYING TECHNIQUE OF INSTRUCTION FOR GIFTED CHILDREN

I. INTRODUCTION

Purpose of following discussion. The purpose of the following discussion is to present some of the modifications of technique of instruction which are desirable in teaching gifted children in classes of unselected elementary-school pupils.[1]

The term "technique of instruction" is used to designate the procedures of the teacher in stimulating and guiding pupils in the acquisition of knowledge and in the formation of specific habits, attitudes, and ideals. It includes those things which the teacher does to stimulate the pupils to study, those things which she does to direct them in their study, and also the formulation of the exercises which she assigns for them to do.

Inasmuch as the term "gifted" is a relative designation and "there is no definite line of demarcation,....between a *normal standard child* and a *superior* (gifted) *child,*"[2] gifted children are here defined only in general terms as those of "rounded," accelerated development. Such pupils constitute approximately the upper one tenth of an ordinary class. Their I. Q.'s will usually range from 130 upward, although occasionally they may register as low as 120.[3]

Discussion confined to classes of unselected children. Administrative procedures such as homogeneous grouping in connection with differentiated curricula, extra promotions and individualized instruction have received much attention as provisions for individual differences in general, and for gifted children in particular. In fact an examination of current educational literature suggests that most of the attempts to provide for individual differences have been largely administrative. The possibility of providing for the needs of gifted children by these and

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[1]It is assumed that education should be adjusted as nearly as possible to the needs of all pupils in order that the individual may be developed to the fullest extent feasible, and that anything which will assist in the achievement of this ideal is worthy of consideration. No attempt is made to justify this hypothesis other than to say that it is a generally accepted educational ideal at present.

[2]Baldwin, Bird T. "Methods of selecting superior or gifted children." Twenty-Third Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1924, p. 37.

[3]The terms "gifted," "superior," and "bright" are used almost synonymously in this circular.

similar schemes without variations in the technique of instruction is recognized, but it seems highly improbable that such provisions will suffice. Even with administrative schemes operating to their greatest efficiency, it appears that there must still be need for modifications in the technique of instruction to suit the varying natures and capacities of pupils.

This circular is confined to a consideration of gifted children in unselected classes, for, while there are large numbers of gifted boys and girls in our schools,[4] there are relatively few classes of segregated superior pupils at present. For some time to come, and perhaps always, especially in the smaller schools where segregation is administratively impracticable, most of our gifted children will be taught in unselected classes.

Earlier completion of elementary school not considered. Although earlier completion of the work ordinarily prescribed in our schools is sometimes one of the chief aims in adjustments made for gifted children, it is not given consideration here because of the limitations placed upon the problem. For the purpose of this circular, the assumption is that all normal and all gifted children will progress through the schools at the same rate and in the same groups, so long as they are not segregated into special-ability classes.[5]

Method of securing suggestions for modifications of technique. Suggestions for modifications of teaching techniques have been derived from two types of sources: first, from those few articles on gifted children which deal specifically with the technique of instruction,[6] and second, from comprehensive and authoritative articles on the characteristics of superior children, in which certain modifications of technique are implied.

Chief sources of information. The Nineteenth Yearbook, Part II, of the National Society for the Study of Education, the Twenty-Third Yearbook, Part I, and the Twenty-Fourth Yearbook, Part II, which

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[4]Children with I. Q.'s above 125 are estimated by Rugg to number close to 500,000 in our elementary schools, with a similar number in our high schools.

Rugg, Harold O. "The curriculum for gifted children." Twenty-Third Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1924, p. 91.

[5]This statement is not intended to imply that gifted children may not be given extra promotions.

[6]Within the last few years there have been hundreds of articles written about gifted children, their characteristics and treatment. For example, the Twenty-Third Yearbook of the National Society for the Study of Education, Part I, "The education of gifted children," contains an annotated bibliography of 453 titles, but only a few of these deal directly with the technique of teaching.

purport to summarize much of the work that has been going on, have furnished the greater part of the information. In addition to these, a great many articles in educational journals have been examined, but only a few have furnished usable material.

Limitations. Limitations are imposed by the dearth of educational literature bearing directly upon the technique of teaching gifted children in unsegregated classes; a fact which indicates that small attention has been given to this phase of dealing with them. In consequence, there is little experimental foundation on which to build, and a large probability of error in the inferences as to the techniques that should be used. Although the recommendations made later are apparently valid, they must be qualified because of this limitation.

II. FACTORS TO BE CONSIDERED IN MODIFYING TECHNIQUE

1. Characteristics of gifted children. Gifted children have been described previously as children of "rounded," accelerated development, who usually have I. Q.'s of 130 or above and who are among the upper one tenth of an ordinary class. However, the term "gifted" is only relative and no definite line of demarcation can be drawn which will mark off the gifted from those who are not gifted. Still, some of the characteristics which by their degree of development distinguish superior children from the mediocre can be named and described.

Physical characteristics. In general, those who are mentally superior are not physically inferior, as has been commonly believed, but tend to be somewhat above the average in this respect. That is, mental and physical superiority tend to accompany each other.[7] Of course, there is occasionally a high-strung, and physically under-developed child who also possesses high mental ability, but he is rare and should be dealt with as a special case. Furthermore, this infrequent type is eliminated from consideration here by virtue of the original description of gifted children as "rounded." The fact that mental and physical superiority tend to accompany one another means that there is no need for laying great stress on the probability of overworking gifted children and thus injuring their health.

Social traits. Much evidence regarding the social traits of gifted children has been assembled by Helen Davis.[8] From her study the following conclusions seem justified. Superior children tend to associate with others of similar mental age, although they mingle easily with all children and "usually show little difficulty in adjusting themselves either to an older or to a younger group." They are popular on the playground and are chosen for positions of responsibility more often, proportionally, than are normal children. They are leaders and in general have a wholesome attitude toward their fellows.

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[7] Baldwin, Bird T. *Op. cit.*, p. 38.
Davis, Helen. "Personal and social characteristics of gifted children." Twenty-Third Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1924, p. 126.
Terman, Lewis M. "The physical and mental traits of gifted children." Twenty-Third Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1924, p. 159.

[8] Davis, Helen. *Op. cit.*, p. 127.

Moral and character traits. Davis[9] and Terman[10] both report distinct superiority in the moral and character traits of gifted children. Such children ranked higher in these respects when rated by individuals as well as when measured by a number of tests, such as the Raubenheimer test of social attitudes and the Woodworth-Cady test of emotional instability. Terman comes to the conclusion that "the danger of over-intellectualization at the expense of normal development along social and moral lines is probably much less than some have believed it to be."

Mental characteristics.[11] The description of gifted children as "superior" or even as being characterized by "rounded, accelerated development" and I. Q.'s above 130 fails to specify their mental characteristics which are significant when considering the instructional procedures that should be employed. For the purpose of description the mental traits of gifted children may be grouped under power, attitudes, general mental habits, and versatility.

Power to learn is a distinctive characteristic of gifted children. They show marked ability to "absorb" knowledge much more quickly than normal children; they read more rapidly, remember more, and with greater vividness. They have an unusual power of focusing their attention upon a task and they are able to stay by a thing without fatigue much longer than the average. They generalize readily; they quickly see underlying principles and relate similars, or in other words, they have a more logical way of thinking. All of the above is only another way of saying that gifted children are more adept in their thinking.

The *attitude* or mind set of gifted children is a second significant characteristic. They have an abounding intellectual curiosity or desire to "know about" almost everything, and are thus led to forge ahead into new fields of knowledge. They desire to excel and this is another force that drives them forward. Along with these two characteristics is an active imagination. But these three are held in leash and guided by three other traits: common sense, broadmindedness, and an unusual tendency and ability for self-criticism, the first two being of a somewhat indefinite character. Lastly, they usually possess a highly developed sense of humor.

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[9]Davis, Helen. *Op. cit.*, p. 132.
[10]Terman, Lewis M. *Op. cit.*, p. 161-64.
[11]Davis, Helen. *Op. cit.*, p. 129-32.
Terman, Lewis M. *Op. cit.*, p. 164.
Waddle, Charles W. "Case histories of gifted children." Twenty-Third Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1924, p. 185-207.

General mental habits refer to methods of work or study. Gifted children usually exhibit highly efficient methods of study but this trait depends more upon the training they have received than do power and attitude. When pupils with high I. Q.'s are found to be inferior in their accomplishments in schools, the cause is usually poor habits of study[12] which have been developed. Pupils who excel in school are found to have superior study habits.[13] In experiments with supervised study, such as the well-known one by Breslich,[14] it is shown that the slower pupils profit most under supervised study and the bright pupils seem to excel when left to study alone. No doubt gifted children succeed better when not too closely supervised, largely because they have formed good study habits, with which so-called "supervision" often interferes, although the same supervision improves the study habits of the poorer pupils.

Versatility also characterizes superior children. They have a very wide range of interests. They are well known for their linguistic propensities. They have been found to excel in music and art on the theory side, although in execution there is a dependence on what is commonly called "talent." Contrary to common belief, some authorities claim that gifted children can and do excel in mechanical ability.

2. Educational outcomes desired for gifted children. The outcomes desired constitute another set of factors which must be given careful consideration in determining variations in methods of teaching. In this connection one may well ask the question: Are the outcomes of education which are desired for gifted children different from those which are generally desired for "average" children? An affirmative answer is usually given.

Gifted children should develop a "social likemindedness" along with the others, that is, they are to develop a community of interests with all others in our schools. The requirements in the tool subjects—reading, arithmetic, grammar, spelling, and handwriting—are practically the same for all pupils, whether mediocre or gifted. It is in the informational or thought-provoking subjects that the superior children are to develop their capacities to the fullest extent. They are being educated to be the leaders of the future. They should develop superior

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[12]Habits of study may be taken as an index of mental habits in general.

[13]For an analysis of how bright children study, see:
Monroe, Walter S. and Mohlman, Dora Keen. "Training in the technique of study." University of Illinois Bulletin, Vol. 22, No. 2, Bureau of Educational Research Bulletin No. 20. Urbana: University of Illinois, 1924, p. 47-52.

[14]Breslich, Ernst R. "Teaching high-school pupils how to study," School Review, 20:505-15, October, 1912.

ability to think, particularly to think abstractly, superior ability in oral expression, superior social intelligence, and superior qualities of leadership. It is in these various ways that the gifted are to realize their fullness of growth. In the content subjects, especially, the aims of education are not merely to give the superior pupils such parts as may be considered "minimal essentials." Rather, the chief aims are to encourage and to develop the more intangible abilities, such as power of abstraction and social ideals, to the fullest extent possible for the individual.

To summarize, gifted children should, first of all, develop a community of interests, skills, knowledge, and ideals, with the others of the social group; but beyond this they should gain additional knowledge, additional power to reason, to originate, to lead others, and to work and think independently. But even more important are the more indefinite outcomes: right attitudes, good habits of industry and hard work, cooperativeness, responsibility, and initiative.

3. Limitations due to instruction in classes. The conditions that necessarily accompany teaching in classes as opposed to individual instruction constitute a third set of factors which must be given consideration in adjusting the technique of instruction to the needs of gifted children. Ideally, it should be necessary only to consider the characteristics of the pupils and the results to be obtained, but practically the conditions imposed by instruction in classes change considerably some techniques that would be employed under ideal conditions.

Either of two points of view may be taken: first, that an ideal technique of instruction may be determined and then modified to suit the exigencies of mass instruction; or secondly, that the conditions of class instruction may be modified so that an ideal technique will be approximated. The latter point of view is taken in this circular. The modifications of technique of instruction which are suited to the needs of gifted children are determined from the interplay of the characteristics of gifted pupils and the educational outcomes desired. In connection with each proposed modification of technique, when there is need for it, some suggestions are made for readjusting the usual classroom conditions and management of the class.

III. DESIRABLE ADAPTATIONS OF TECHNIQUE

Two types of adaptation of technique. There are essentially two types of modifications of technique which are possible. Both are often made to some extent, although not always differentiated. The first adjustment is in the learning exercises assigned and the outcomes expected to be produced. The second adjustment is in the teacher's direction of the doing of these learning exercises.

In order to establish the certainty of a common terminology in this respect, the term "learning exercise" is used here to denote those things, exercises, which pupils are asked to do as a basis for educative activity. Typical learning exercises are: an arithmetical problem to be solved, a question to be answered, a paragraph to be read, or a rule to be explained.

Those things which the teacher does in directing pupils in their doing of learning exercises constitute the second phase of technique to be considered in making adjustments.

Modifications of learning exercises for gifted pupils. The modifications of learning exercises which seem appropriate for gifted children have been grouped under six heads.

1. Drill reduced. Nearly all who have written directly on adaptation of methods of instruction to gifted children emphasize the fact that in engendering specific habits less drill is needed for them than for average pupils. Superior children reach a desired standard of attainment more quickly because of the ease of assimilation which they possess, and continued drill, if effective, will perfect them beyond this standard. But ordinarily it is not desirable to carry specific habits to any considerably higher degree of perfection with gifted children than with those of average abilities. After formal drill on a process is discontinued, superior children even more than others continue to perfect themselves incidentally while they are using the process as a means to some end. An estimate based upon experimental evidence such as the work in Detroit,[15] and in the experimental room conducted in Urbana[16] several years ago, shows that approximately half as much drill will suffice with gifted as with mediocre pupils.

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[15] Cleveland, Elizabeth. "Detroit's experiment with gifted children," School and Society, 12:179-83, September 11, 1920.

[16] "Classroom problems in the education of gifted children." Nineteenth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Company, 1920, p. 101.

It is also true that drill beyond the point of commensurate returns is likely to become monotonous and distasteful and often results in antagonizing the pupils or at least in divorcing their interest. Gifted pupils usually realize when they are ready to forge ahead and resent marking time.

In the drill subjects[17] of handwriting, spelling, arithmetic, and grammar, the first requisite is a well-established set of standards or objectives to be attained. These objectives should be arranged by units of subject-matter and by units of time, and should be in terms of ability to do rather than ground to be covered or exercises to be done. This organization should be followed by a continuous program of testing in order to ascertain when an objective has been achieved. The gifted children will attain the desired degree of perfection ahead of the others and may then be excused from the regular drill work until a new unit is to be taken up. They should be kept busy, however, not merely excused. If they are excused from the regular work in penmanship, they may take up some closely related work in the same subject, for instance, pen lettering or artistic writing; or they may take up additional work in one of their other subjects if they are in need of it; or they may be allowed to pursue special interests of their own, such as leisure reading in the library.

Whatever disposition is made of gifted pupils when they are excused from the regular drill work of the class, they should be held strictly accountable for their activities. If they are allowed to waste the period, they probably will develop habits of indolence.

2. Formal review reduced. Review is closely allied to drill. Perhaps it is only another form of drill although not ordinarily thought of in connection with the term. As the terms are usually thought of, drill is used to fix specific habits and review is to revive and enrich knowledge.[18] The preceding discussion relative to the reduction of drill is pertinent to review also. In the content subjects, such as geography and history, in which it is more difficult to set up specific objectives, the problem is not so simple as in the drill subjects; but there is greater opportunity for the superior pupils to develop their powers to the fullest extent.

Courses of study should definitely outline the subjects, designating so-called minimal subject-matter and providing ample additional sub-

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[17]Reading is intentionally omitted because the arguments do not apply.

[18]This assumes the outcomes of teaching to be classified into four groups: specific habits, knowledge, ideals, and attitudes. For a discussion of such a classification, see: Bagley, William C. and Keith, John A. H. An Introduction to Teaching. New York: The Macmillan Company, 1924, p. 210-61.

ject-matter for those who go beyond the bare minimum. This must be followed by careful testing, both formal and informal, to determine when the minimal subject-matter has been mastered. Additional subject-matter, which often will involve books other than the textbook, should be assigned. If possible, these books should be in the classroom, but where this is impractical and the books are in the school library, the pupils may be permitted to go there to do their reading.

During the so-called recitation period, the entire class ordinarily should be together. Differentiations can be made between the gifted children and the others by having special reports, by letting the superior children contribute from their readings outside of the textbook, by giving them opportunity to help the others out of difficulties, by directing the more taxing questions to the brighter ones, or by other related means.

3. Fewer illustrations used. Superior pupils, because of their ease of assimilation, need fewer illustrations to assist them in comprehending generalizations and abstractions. Superior children also readily call up illustrations from their own personal or vicarious experience. This type of illustration has much more educative value, for it involves greater activity on the part of the learner.

It may be that teachers should use more illustrations with pupils of average capacity than they now employ, and that usually even for the most gifted too few are used. This is another problem. The point here is that if a sufficient number of illustrations are now used for the proper teaching of average children, fewer illustrations are needed for efficient teaching of gifted children.

4. More abstract theory and more teaching by principles. The gifted show marked ability to generalize, to see underlying principles, and to relate similars. Consequently, they can be taught more abstract theory and more often can be taught by means of principles. They quickly learn elementary principles because they are able to generalize easily from a few cases.[19] They are able to think in terms of these principles in learning other principles and in solving problems. One of the aims for the gifted is that they should develop a high degree of

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[19]Breslich takes a somewhat contrary view. He says: "It is an interesting fact that bright and rapid pupils may need to do more work to assimilate a mathematical principle than is necessary for the slow, but careful pupil. While the latter works a few problems, trying to understand and to remember every step, the former sometimes progresses rapidly but too superficially, so that he attains understanding only after having worked a large number of problems."

Breslich, Ernst R. "The needs of the superior pupil in the study of mathematics." Twenty-Third Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1924, p. 375.

ability to reason. Surely types of learning exercises which involve the learning of abstract theory and learning by means of principles will train in the highest types of reasoning ability.

For purposes of illustration, an example may be taken from elementary arithmetic. In learning to multiply or divide by multiples of ten, the general principles of adding zeros to the multiplicand or of cutting off a corresponding number of places from the dividend may be grasped immediately by the brighter pupils, and they may be set at once to acquiring skill. The slower pupils need to do a number of preliminary exercises before they grasp the general principles underlying the processes. As an illustration of teaching more abstractions, it is a well established policy to teach the use of Roman numerals only to the brighter pupils. The amount of abstractions required in the mastery of Roman numerals is too great, combined with their limited usage, to justify teaching them to most children.

5. More excursions and field trips. This type of learning exercise is closely related to all of the preceding ones. With the reduction of drill and the greater emphasis on abstract theory and principles, the superior children have greater opportunity to reach out into new fields. Experience, such as the excursion, offers an opportunity for them to see principles and theories in practice. The excursion or field trip supplements the vicarious experience which gifted children usually gain through extensive reading. Because of their wide knowledge of theories and principles, they are able to profit greatly from trips to places where these theories and principles are in actual operation. They profit vastly more than average pupils, for the latter not having the large background of theory are confused somewhat at the time by the mass of details. For average pupils, excursions provide illustrative material and experiences to study later in arriving at an understanding of theories and principles, while for gifted children they offer mainly an opportunity to see theories and principles in practice and to make their knowledge practical.

Gifted pupils may be permitted to take up projects which they propose. These give especial opportunity for initiative and leadership. Other projects may be suggested by the teacher, who in all cases should carefully supervise the work.

6. More pupil reports. The last of the modifications in types of learning exercises is suggested by the gifted children's superior leadership qualities, study habits, and linguistic abilities, and is coordinated with the desired outcome of independent thinking and leadership. Often the experiences gained in field trips, or in doing projects may be sum-

marized in a report to the class. The report furnishes an appropriate stimulus for the proper completion of such learning exercises and gives added training. Gifted children have more to talk about in giving their reports than do other pupils. They are able to present profitable material and can deliver their reports in such a way as to maintain interest. And with it all, they are assuredly developing some of the desirable characteristics of leadership as well as the ability to think independently.

Modifications in directing the doing of learning exercises. The modifications in the learning exercises assigned to gifted children should be supplemented by certain modifications in the procedures employed in directing their activities. The changes suggested here are grouped under three heads. Naturally, each of these proposed modifications is more or less intimately tied up with the variations in types of learning exercises and grow somewhat out of the same characteristics and aims.

1. Less effort to arouse and maintain interest. The need for less effort in arousing and maintaining interest is suggested by four more or less closely related mental characteristics: (1) intellectual curiosity and initiative, (2) wide range of interests, (3) imagination, and (4) power of sustained attention. It is obvious that when pupils excel in these four characteristics, there is less need for effort on the part of the teacher to arouse and hold their interest. Such pupils are "naturally" interested in almost anything that may be mentioned. Furthermore, over-stimulation results in a disastrously deadening effect later, if it does not kill interest as an immediate consequence.

This suggestion is negative in so far as the gifted pupils are concerned. However, it implies that the teacher should direct her attention to arousing the interest of the slower pupils, remembering that they are the ones to be watched and that she may proceed to new subject-matter at almost any pace and still retain the interest of the brighter pupils. For example, in order to teach the multiplication combinations in an effective and efficient manner, it may be necessary to devise games that will motivate the work for most of the pupils. But the brighter pupils may be set at the task of learning the multiplication tables and probably will do it with a zest without any particular effort on the part of the teacher to motivate the exercise.

2. Evaluation and organization of knowledge emphasized. Gifted children naturally acquire a very large amount of information both in and out of school. Some of these details are valuable as individual facts, others are valuable only within related groups of facts, while still others are useful only as they help in building up and understanding abstrac-

tions and principles. These last, especially, must be well organized. If gifted pupils are to think independently and effectively, they must see clearly the relative importance of details. This result frequently is accomplished by insistence on outlining and summarizing. Careful supervision of pupils' projects and reports is less common-place and formal, but probably just as effective.

3. Assistance only when there is a real need. It is almost needless to say that gifted pupils are very superior in their ability to get themselves out of difficulties and the teacher must be careful to judge properly when assistance is really needed. Only by solving their own problems and working out their own solutions, when they can do so efficiently, are pupils going to develop most effectively their powers of independent work and thought, their initiative, industry, and perhaps other less tangible abilities.

Summary. The following are terse restatements of the preceding suggestions as to desirable modifications of teaching techniques.

Modifications of learning exercises for gifted pupils.

1. The amount of drill should be reduced.
2. The amount of review should be reduced.
3. The number of illustrations should be reduced.
4. More abstract theory should be taught and there should be more teaching by means of principles.
5. More excursions and field trips should be made for observing principles and theories in practice.
6. Pupil reports should be employed to a greater extent.

Modifications in the directing of the doing of learning exercises.

1. Effort to arouse and maintain interest may be reduced.
2. Evaluation and organization should be emphasized.
3. Especial care should be taken to avoid giving assistance until there is a real need for it.

IV. BIBLIOGRAPHY

Breslich, Ernst R. "Teaching high-school pupils how to study," School Review, 20:505-15, October, 1912.

Discusses the benefits to various classes of pupils which are derived from supervised study.

Bush, Emma D. "An experiment in varying methods of teaching bright and dull sections of the seventh grade," Journal of Educational Research, 8:113-21, September, 1923.

A description of a careful experiment with definite evidence on specific points of method. Very suggestive, although not conclusive.

Cleveland, Elizabeth. "Detroit's experiment with gifted children," School and Society, 12:179-83, September 11, 1920.

An article which deals with many phases and does not go into great detail, although excellent in parts.

Monroe, Walter S. and Mohlman, Dora Keen. "Training in the technique of study." University of Illinois Bulletin, Vol. 22, No. 2, Bureau of Educational Research Bulletin No. 20. Urbana: University of Illinois, 1924. 66 p.

Chapter V, "How bright children study," is particularly significant.

Odell, Charles W. "An annotated bibliography dealing with the classification and instruction of pupils to provide for individual differences." University of Illinois Bulletin, Vol. 21, No. 12, Bureau of Educational Research Bulletin No. 16. Urbana: University of Illinois, 1923. 50 p.

Contains 346 titles.

Terman, Lewis M., et al. Genetic Studies of Genius, Vol. I, "Mental and Physical Traits of a Thousand Gifted Children." Stanford University, California: Stanford University Press, 1925. 648 p.

This is a report of the most comprehensive, thorough, and scientific investigation yet made of the mental and physical traits of gifted children.

"Adapting the schools to individual differences." Twenty-Fourth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Company, 1925. 410 p.

This yearbook takes up chiefly administrative schemes such as the Dalton Plan and the Winnetka Plan, discusses their external features, the underlying theories, and the results achieved.

"Classroom problems in the education of gifted children." Nineteenth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Company, 1920. 125 p.

This yearbook is devoted almost entirely to an account of the experimental room at Urbana which was conducted under the direction of Professor Whipple. It is very helpful.

"The education of gifted children." Twenty-Third Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Company, 1924. 443 p.

The most complete and helpful collection of studies on the subject yet published. Contains an annotated bibliography of 453 titles.

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